WE CLAIM:

1. A device for transferring cells from a cell suspension comprising cells suspended in a fluid medium onto a substrate, comprising:

segregation means to segregate the cells in a portion of the cell suspension from the cell suspension; and

transfer means to transfer the segregated cells to a solid surface;

wherein the segregated cells are deposited on the solid surface in an approximation of a monolayer and wherein the remainder of the cell suspension is recoverable for other use.

2. The device of claim 1, wherein the transfer means permit the segregated cells to transfer to the solid surface under the influence of gravity.

3. The device of claim 1, wherein the transfer means permit the segregated cells to transfer to the solid surface under the influence of an exerted pressure.

4. The device of claim 1, wherein the transfer means permit the segregated cells to transfer to the solid surface as a result of physical contact between the transfer means and the solid surface.

5. The device of claim 1, wherein the segregation means segregate a portion of the cells in the cell suspension volumetrically.

6. The device of claim 1, further comprising cell removal means for removing excess cells, the cell removal means comprising at least one of washing, agitation and inversion.

7. The device of claim 1, further comprising absorbing means for absorbing excess fluid remaining after cell deposition.

8. The device of claim 1, wherein the solid surface comprises a microscope slide.

9. The device of claim 1, wherein the solid surface comprises a non-porous film or membrane.

10. The device of claim 1, wherein the transfer means comprises enhancing cell adhesion by applying a coating to the solid surface prior to cell deposition.

11. The device of claim 1, wherein the transfer means comprises means to capture the segregated cells on a surface of a porous medium.

12. The device of claim 1, wherein the segregation means and transfer means comprise using cell adhesion followed by one of washing, agitation and inversion.

13. The device of claim 9, wherein the segregation means are configured to permit a fluid phase of a portion of the cell suspension to pass through the porous medium, the cells contained in this portion being retained on the surface of said porous medium while the remainder of the cell suspension is displaced away from the porous medium.

14. The device of claim 13, wherein any excess fluid remaining after capture of the cells on the surface of the porous medium is captured by an absorbent material.

15. The device of claim 13, wherein the portion of the cell suspension from which cells are captured on the surface of the porous medium is determined by the volume of cell suspension that contains sufficient cells to physically block the preponderance of pores in the porous medium.

16. The device of claim 13, wherein an adsorbent material in contact with the porous medium promotes conformal and compliant contact between the porous and solid media when they are brought together.

17. The device of claim 7, wherein the absorbent material absorbs substantially all of the fluid that passes through the porous medium.

18. The device of claim 1, further comprising an end of process indicator that is configured to visually indicate when an adequate number of cells have been transferred to the solid substrate.

19. A device for depositing cells from a fluid suspension onto a solid substrate, the device comprising:

a first chamber for containing the fluid suspension, said chamber being divided into two or more contiguous zones;

a second chamber for receiving excess fluid suspension;

a channel through which excess fluid suspension can be displaced from the first chamber to the second;

retaining means of retaining the solid substrate relative to the first chamber; and

a displacement device comprising a member slideable within the first chamber, said displacement device comprising:

a body element;

a porous element; and

a fluid absorbing element.

20. The device of claim 19, wherein the displacement device is configured such that movement of the displacement device within the first zone of the first chamber traps a predetermined sub-sample of the fluid suspension within one zone of the first chamber.

21. The device of claim 19 wherein the displacement device is configured such that movement of the displacement device within the first zone of the first chamber traps a predetermined sub-sample of the fluid suspension within the second zone of the first chamber while displacing a portion of the fluid suspension from the first chamber into the second chamber.

22. The device of claim 21, wherein a volume of fluid suspension trapped with the second zone of the first chamber contains a number of cells adequate for a purpose for which the cells are being deposited.

23. The device of claim 19, wherein the displacement device is configured such that continued movement of the displacement device causes a predetermined sub-sample of the fluid suspension to pass through the porous element of the slideable element, the cells contained in the fluid suspension being captured on the surface of the porous element.

24. The device of claim 23, wherein the fluid from which the cells have been removed is absorbed by the fluid absorbing element.

25. The device of claim 23, wherein swelling of the fluid absorbing element upon fluid absorption convexly deforms the porous element and forms a compliant support for said deformed porous element.

26. The device of claim 25, wherein the deformed porous element presses upon the solid substrate thereby transferring the cells captured on the surface of the porous element from the porous element to the solid substrate.

27. The device of claim 26, wherein the compliance of the swollen absorbing element ensures uniform contact of the porous element with the solid substrate.

28. The device of claim 27, wherein continued fluid absorption by the absorbing element removes excess fluid from the cells transferred to the solid support leaving said cells nominally dry.

29. A method for depositing cells from a fluid suspension onto a solid substrate, the method comprising steps of:

moving a slideable element to trap a predetermined sub-sample of the fluid suspension in a chamber;

further moving the slideable element to transfer cells in the fluid suspension to a porous element that is attached to the slideable element with simultaneous absorption of cell-free fluid by an absorbing element; and

transferring the cells from the porous element to the solid support by pressure contact.

30. The method of claim 29, wherein the volume of trapped fluid suspension contains a number of cells that is necessary and sufficient to the intended purpose(s) for which the cells are being deposited upon the solid substrate.

31. The method of claim 29, wherein upon separation of the solid support from the device, the deposited cells are nominally dry and are in form suitable for staining or other processing.

32. A device for retrieving cells from a cell collection device, comprising:

a housing;

a first chamber within the housing;

a second chamber within the housing, the second chamber configured to accept a cell collection device, the second chamber in fluid communication with the first chamber; and

a third chamber within the housing, the third chamber in fluid communication with the first chamber and the second chamber.

33. The device of claim 32, further comprising a lid bearing a detachable membrane and an absorbent layer arranged in contact with the detachable membrane.

34. The device of claim 33, wherein the first chamber, second chamber and third chamber are configured to hold a volume of cell collection fluid and are configured to move the volume of cell collection fluid in such a way as to wash cells from the cell collection device into the fluid.

35. The device of claim 34, wherein at least a portion of the cell collection fluid is drawn into the absorbent layer, thereby capturing at least a portion of the cells on the detachable membrane.

36. The device of claim 32, further comprising a first pressure source arranged in conjunction with the first chamber and a second pressure source arranged in conjunction with the second chamber.

37. The device of claim 36, wherein the first pressure source and the second pressure source each comprise a flexible dome membrane.